

## Media Release

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# ***57% of unborn babies are exposed to increased levels of toxic air pollution***

- ***New research shows that 57% of mothers travel more by car or taxi when they are in the later stages of pregnancy – equivalent to 2.6 million UK unborn babies exposed to additional air pollution over the past 6 years***
- ***Pollution monitoring has shown that there is nearly double the amount of pollution inside a car compared to walking***
- ***Clean Air Day urges pregnant women to make sure they are armed with the facts about air pollution before they get in the car so as to protect their unborn baby - and has put together some alternatives to driving***
- ***Working from home is a way of avoiding outdoor air pollution yet only 16% of mothers regularly work from home***
- ***New research has recently shown that raised levels of nitrogen dioxide (NO<sub>2</sub>) increased the risk of miscarriage by 16% <sup>\*1</sup>***

New consumer research has shown that 57% of women spend more time in a car when heavily pregnant - likely to be a result of walking, cycling and using public transport becoming increasingly difficult. As pollution levels are nearly double inside a car compared to walking, this can be the equivalent of a minimum of 2.6 million UK babies being exposed to additional air pollution before they are born over the past 6 years.<sup>1</sup>

The research, launched ahead of this year's [Clean Air Day](#), is a bid to:

- raise awareness of the effects of air pollution on pregnant women and the next generation
- call on the public to drive less frequently to reduce the level of pollution

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<sup>1</sup> See Opinium research descriptor below

- highlight ways that [pregnant women might avoid high levels of outdoor air pollution](#), such as splitting your journey across more than one mode of travel, working from home if your work allows and getting shopping delivered to your door.

“The rest of society needs to recognise that for pregnant women sometimes travelling in a car is the only option and that we all have a role to play in reducing the pollution affecting the next generation,” says Chris Large of environment charity Global Action Plan, the organisers of Clean Air Day, which takes place on Thursday 20 June. “In the same way we would consider smoking in front of pregnant women as harmful to the babies’ health, so should we think of idling in our cars so causing unnecessary pollution as equally socially unacceptable.”

Many people do not realise that even before their children are born they can be affected by air pollution and that it can be passed from the mother to the baby. A number of research studies have recently shown that:

- there are links between being exposed to high levels of air pollution and an increased risk of miscarriage by 16%\*<sup>1</sup>
- in Greater London, 3% of low birth weight cases are directly linked to exposure to air pollution (PM2.5) during pregnancy\*<sup>2</sup>

A number of studies have demonstrated that there is double the amount of air pollution when travelling by car compared to walking.

New Opinion research, commissioned for Clean Air Day, found that:

- Up to 57% of women had increased their use of cars and taxis in the latter stages of pregnancy.
- A separate piece of research found that only 16% of mothers were able to regularly work from home during their third trimester. Apart from roles where it was not possible to work remotely, the biggest reason given for not working from home more frequently was a lack of company support.

In advance of this year’s Clean Air Day, Global Action Plan has developed information and resources on the [Clean Air Day 2019](#) website. These provide:

- information on how the public can minimise the exposure to air pollution by their families and the next generation
- top tips on how pregnant mothers can protect themselves, such as different ways to travel into work, and shopping locally to avoid pollution
- tips and information about working from home, including a template letter to send to employers asking to work from home due to the risks of air pollution.

Professor Jonathan Grigg, Professor of Paediatric Respiratory and Environmental Medicine at Queen Mary University of London, said: “Air pollution is having a devastating impact on the lives of everyone, particularly children, and embryos. These health impacts can include

increased risk of developing pneumonia and asthma, and lower lung function growth. This just illustrates how vital it is that we all take action to reduce air pollution, and the need for more stringent standards and policies to address this issue.”

Chris Large says: “This year’s [Clean Air Day 2019](#) we have put a spotlight on some of the lesser known issues with air pollution, such as indoor air pollution and the potential damage caused to unborn babies. By highlighting the impact that air pollution can have on people’s health, including unborn babies, we hope that we can encourage everyone to do more to tackle air pollution and protect their family’s health.”

Says pregnant mother Celia Wyndham, 36: “I didn’t know a lot about air pollution and am really worried to learn that air pollution in a car can be worse than outside. I often collected my daughter from nursery in the car. Now, though, I’ll probably walk more instead of travelling by car.”

As part of their mission to raise awareness of the effects of air pollution and what people can do about it, Clean Air Day has launched a set of online guidance specifically aimed at parents and families, with tips on how people can avoid air pollution and better protect their health. Find out more at [www.cleanairday.org.uk](http://www.cleanairday.org.uk)

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## Notes to Editors

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### Academic commentary available

Professor Jonathan Grigg , Professor of Paediatric Respiratory and Environmental Medicine, [Queen Mary University London](#), is a leading expert on the impacts of air pollution on health.

### About Clean Air Day

[Clean Air Day](#) is the UK’s biggest air pollution campaign. It’s a chance to find out more about air pollution, share information, and make the air cleaner and healthier for everyone. Clean Air Day, which this year takes place on 20 June, is coordinated by environment charity [Global Action Plan](#) and supported by more than 200 organisations, including Public Health England, British Heart Foundation, British Cycling, Royal College of Physicians, DEFRA, UNICEF, Asthma UK, Great Ormond Street Hospital and additional NHS trusts and local authorities.

Clean Air Day is made possible by the kind support of our Partners DEFRA, The Clean Breathing Institute, Airtopia, Johnson Matthey, ENGIE, Opinium, the Scottish Government and the Welsh Government.

### **What's happening on Clean Air Day**

At least 325 events are taking place up and down the country, and range from individual schools running walking buses and no idling events, to mass communication of air pollution information across the NHS.

- In Waltham Forest, London children will be walking, cycling or scooting to school wearing blue.
- Reading is holding an anti-idling event outside the station featuring a giant snakes and ladders game.
- Pharmacies in Camden and Islington, London, are putting Clean Air Day stickers and messages on bags.
- Greater Manchester has a Clean Air Week, including pollution pods in Media City and an electric vehicle roadshow.
- Foxhills Infant and Junior School, in Southampton, are closing the school car park and replacing it with a carnival.
- In Glasgow, part of George Square will be closed off for clean air-themed events and activities. There will be a BMX track, music, displays of electric vehicles including motorbikes and the latest low-emission buses.
- The London Borough of Lambeth is having a [whole week of activities](#) in the run up to Clean Air Day
- Rhunahaorine Primary School, (in Argyll and Bute), which consists of 11 pupils and four staff, will undertake a traffic survey outside the school on Clean Air Day .
- Caerphilly Council is running a week of air pollution-themed activities centred on the castle, including a mass walk-to-the castle by local primary schools and a theatre performance on air quality in the castle grounds
- There will be a Clean Air Day mass picnic in Leicester city centre
- Chiltern District Council is holding a Clean Air Day quiz in its offices
- Great Ormond Street hospital, in central London, will be closing a street for a day-long play event.
- The Royal College of Physicians is hosting a clean air conference in Liverpool - *Every Breath We Take: Where Next for Liverpool*

To see more events, various organisations, including councils and local pressure groups, have listed their planned activities on the [Clean Air Day events map](#).

### **Top tips on how to modify your journeys to reduce exposure to air pollution**

- Try reducing the amount you drive into work and or other journeys. Where possible you can split your journeys across more than one mode of transport, reducing the amount of time you spend in the car. Use quieter streets when you're on foot to avoid polluted main roads

- If you can, try to avoid travelling at rush hour when the pollution levels are often much higher and journeys take longer
- If your work allows, it can be good to work from home occasionally, so that you avoid the commute altogether. This can be especially helpful on high air pollution days
- Order your shopping online and try to shop locally as much as possible
- When it comes to renewing your car, consider an electric vehicle

Download Clean Air Day's tips on [how to avoid air pollution when you're pregnant](#)

## Case studies - photographs available

### **Harriet Smith, 32, Civil Servant, Reading**

Harriet likes walking and would walk to work, even when pregnant. But in the later stages of pregnancy, Harriet would often get a lift from her husband to work.

"In my first semester I worked in London so I got a lift to and from the station from Alex, my husband, and travelled by train and then Tube.

"Then in my second trimester I began to work nearer home and I started trying to walk a lot. Now in my third trimester I am getting the bus quite a lot. But sometimes I can't face the bus so more and more I ask Alex for lifts.

"I prefer walking but I have been worried about if I should walk with the twins when they are born, or go by car. I haven't had a car for six years, but I'm now planning to get one (a plug-in hybrid).

"I don't really know if being in a car with the windows up is better than walking in a polluted environment. But I think walking is very important for quality of life and not being able to do that would feel very restricting. I am very concerned about the effects of traffic pollution on those small lungs.

### **Celia Wyndam, 36, Recruitment Consultant, London**

"My usual journey to work is by train, with a bit of walking. That is in London so I'll still carry on doing the same, though might try to change my routine and come in a bit earlier to avoid the crowds.

"Since I've been pregnant I've been more inclined to use taxis when previously I might have got a bus or Tube, especially when I'm out at night – you just get tired so easily.

"I didn't know a lot about air pollution and am really worried to learn that air pollution in a car is worse than outside. I often collected my daughter from nursery in the car. Now, though, I'll probably walk more than travel by car."

**Kate Millar, 39, online business owner, London**

Kate does not own a car, but took several taxi rides to hospital for appointments in the latter stages of her pregnancy.

“Louis {Kate’s three-year-old son} has had several hospital visits for respiratory issues, so we are very aware of the issues of air pollution. The doctors are even saying that they are seeing more and more of this, especially on peak pollution days.

“I avoid walking along main roads, so I take longer routes. I rarely go by car (we don’t have a car). Until recently I would take the bus or Tube if going a long way, but they lack good accessibility, which is frustrating.

“We live in a quiet street but there is a school and nursery just along the road, so the street turns into a car park of idling cars twice a day.

“We walk to the school, and we really notice the exposure... there’s unavoidable exposure to the pollution.”

**Vicky Stevens, 27, Administrator, Bradford**

“I live on a quiet road but it’s hard to get to many places by foot, so you have to go everywhere by car or bus... and there’s a lot of traffic around and so a lot of pollution.

“Obviously air pollution is a big concern, and you hear a lot about the health of the environment generally. We try and be more organised about when we go shopping for example, so we don’t have to go out every day and that helps with air pollution. Also, since being pregnant, I work from home on Fridays now. In the future I don’t want the child I’m bringing up to be having problems with breathing because there’s so much air pollution.

“I want to make sure we’re doing what we can to make it better for the children: there’s only so much we can do, but I’m trying to encourage other people to do things too, for example doing car sharing more. My husband and I car share to work, and my friend, who lives a few doors away, she sometimes comes with us now as she also works not far from where we work.

“I didn’t know that air pollution exposure in the car can be worse. That’s interesting because you feel, ‘Well, I’m in the car and away from it all.’”

**Pollution monitoring studies showing air pollution inside a car is worse than walking**

King’s College London showed that exposure to air pollution was half that when walking compared to travelling the same journey by car.

<https://www.theguardian.com/environment/video/2014/aug/12/london-air-pollution-public-transport-video>

Other studies that have shown similar patterns:

<https://www.sciencedirect.com/science/article/pii/S004896971400713X>

<https://www.sciencedirect.com/science/article/pii/S0048969701007586>

<https://www.theguardian.com/environment/2017/jun/12/children-risk-air-pollution-cars-former-uk-chief-scientist-warns>

## Opium research descriptor

Two pieces of research with pregnant mothers were carried out for Global Action Plan by Opium between 26 April and 29 April 2019 (300 mothers, from a nationally representative sample, with children under the age of 18) and between 11 June 2019 and 13 June 2019 (308 mothers from a nationally representative sample, with children under the age of 18).

The first study found:

- 54% said that they never worked from home during their third trimester, with only 7% saying they always worked from home and 9% saying they often worked from home.
- Among those whose jobs could be carried out remotely, the main reasons given for not working from home more regularly included: the company not supporting home working (55%), not having the right equipment at home (18%), and difficulty coordinating with colleagues (10%).

The second study found:

- Of the 2,005 UK adults surveyed, 308 were mothers with children under 18. Of these, 100 said they were mothers who have children aged six or under six years old, and said that they travelled in a car more when heavily pregnant.  
(100 / 2,005) x 52,079,000 (UK adult population) = minimum of 2,597,456, or 2.6 million pregnancies over 6 years.
- 57% of the total group of 308 mothers said they travelled more often by car when they were heavily pregnant.

## Births data

Government statistics show that 755,042 babies were born in the UK in 2017.

- England and Wales: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths>
- Scotland: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/scotlands-facts/births-in-scotland>
- Northern Ireland: <https://www.nisra.gov.uk/publications/birth-statistics>

## **\*Reference sources of the impacts of air pollution on unborn babies:**

\*1 A 10-ppb increase in seven-day average levels of nitrogen dioxide was associated with a 16% increase in the odds of spontaneous pregnancy loss. **Reference source:** [Acute effects of air pollutants on spontaneous pregnancy loss: a case-crossover study. Feb 2019,](#)

\*2 “In Greater London, a study found that 3% of low birth weight cases are directly linked to exposure to air pollution (PM2.5) during pregnancy.” The scientists found a 15% increase in risk of low birth weight for every additional 5 micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ) of fine particle pollution. The average exposure of pregnant women in London to fine particle pollution is  $15\mu\text{g}/\text{m}^3$ , well below UK legal limits but  $5\mu\text{g}/\text{m}^3$  higher than the WHO guideline. Cutting pollution to that guideline would prevent 300-350 babies a year being born with low weight, the researchers estimated. **Reference source:** [Impact of London's road traffic air and noise pollution on birth weight: retrospective population based cohort study. Dec 2017.](#)

\*3 “For those 50% of children being driven to school, the situation is in fact worse. They are exposed to double the pollution inside a vehicle compared to those walking on busy streets.” **Reference source:** **Clean Air Day 2018 media release:** <https://www.cleanairday.org.uk/Handlers/Download.ashx?IDMF=a8be7872-76c9-444d-a7ff-c2d9962d775b>